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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,929	09/25/2003	Luder Heidemann	2001P17672WOUS	2059

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SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPT.
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ISELIN, NJ 08830

EXAMINER

SILVER, DAVID

ART UNIT PAPER NUMBER

2128

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,929

Applicant(s)

HEIDEMANN ET AL.

Examiner

David Silver

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/25/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-24 are pending in Instant Application.

Priority

2. Examiner acknowledges Applicant's claim to priority benefits of:

2.1 10147741.4 09/27/2001 GERMANY

2.2 10115694.4 03/29/2001 GERMANY

3. The Instant Application claims priority from multiple documents. It is unclear if any single document fully supports the disclosure of the Instant Specification. Therefore, priority is not given.

Information Disclosure Statement

4. The information disclosure statement(s) (IDS) submitted on 9/25/03 is/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement(s) is/are being considered by the examiner.

Claim Interpretation

5. Paragraph 17, which recites, in part: "The relevant process steps are filling, heating, and mixing. Each of these individual process steps or basic operations has its own internal sequence of instruction steps which is implemented in the sequence logic." In view of this, "basic operations" shall be interpreted as "filling, heating, and mixing".
6. In view of 35 USC 112 1st paragraph rejection for failure to adequately disclose and enable the deficiencies listed in section titled "Claim Rejections – 35 USC 112", the term following terms will be given their ordinary meaning in the art:

Link: S: (n) link, nexus (the means of connection between things linked in series) (Source: <http://wordnet.princeton.edu/perl/webwn?s=link>).

7. "data packets" shall be interpreted as data or information.

Claim Objections

8. Claims 2 and 10 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s),

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or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 1 and 9 encompass all limitations of claims 2 and 10, respectively.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 23-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **written description requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose "generic simulation" and "generic simulation model", in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. What is a generic simulation? How is it performed? What is a generic simulation model? How is it made / used?

10. Claims 23-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the **enablement requirement**. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims do not enable "generic simulation" and "generic simulation model", in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. What is a generic simulation? How is it performed? What is a generic simulation model? How is it made / used?

11. Claims 6, 14, and 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being **indefinite** for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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As per claims 6, and 14, it is ambiguous and therefore indefinite whether the second "a maintenance system" is referring to another instance or the previously recited instance of the maintenance system.

As per claims 21 and 22, the term "process-control-related variable" is vague and indefinite. The term "process-control-related variable" fails to set the metes and bounds.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-8, 17-18, 21 and 23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 1-8, 17-18, 21 and 23, the method claims do not produce a useful, tangible, and concrete **result**. The steps of the method claims do not produce a useful, tangible, and concrete result. They merely recite a software algorithm, *per se*, which, for example, does not display, store, or otherwise provide a useful tangible output. Note exemplary claim 1 which only recites software steps (linking) and does not produce a useful tangible and concrete result.

Claims 9-16, 19-20, 22, and 24 are interpreted to have hardware elements (at least control device and real process). Therefore are directed toward statutory subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-24 are rejected under 35 U.S.C. 102(b) / 35 USC 102(e) as being anticipated by Cawfield **(US 6,088,630)**.

Priority has not been given to the Instant Application; thus a 102(b) rejection is currently being applied.

To maintain compact prosecution, should the Applicants obtain the claimed priority, a 102(e) rejection

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shall be applied.

Cawfield discloses: 1. A method for maintaining a manufacturing system by executing a real process in the system **(Fig 1 and texts further expanding on its features)**, comprising:
executing a simulation process parallel to the real process, with the simulation process simulating at least a part of the real process **(Fig 1 and texts further expanding on its features)**;
comparing at least a portion of the simulation process with at least a portion of the real process to obtaining a comparison result **(Fig 1 and texts further expanding on the features)**; and
deriving maintenance measures from the comparison result **(fig 4 and texts further expanding on the features, Feedback controllers; col: 10 line: 50-64)**.

Cawfield discloses: 2. A method according to Claim 1, wherein the real process is executed with the simulation process during the parallel execution **(Fig 1-4 and texts further expanding on the features)**.

Cawfield discloses: 3. A method according to Claim 1 wherein the simulation process and real process each comprise several steps and wherein at least one of the steps in each case is compared with the other for the purpose of deriving the maintenance measures **(col: 5 line: 54-56: "comparing each corresponding measured output signal and estimated output signal and calculating the difference between those signals."; col: 10 line: 50-64)**.

Cawfield discloses: 4. A method according to Claim 1, wherein the comparing uses end results of the real process and simulation process or partial results from one or more steps of the real process and simulation process **(col: 5 line: 54-56: "comparing each corresponding measured output signal and estimated output signal and calculating the difference between those signals."; col: 10 line: 50-64)**.

Cawfield discloses: 5. A Method according to Claim 1 wherein the real process and simulation process are controlled jointly by a single control device **(Fig 1, and Fig 11 where level controller controls both the real process and simulated process, same with carbonate controller)**.

Cawfield discloses: 6. A Method according claim 1 wherein a maintenance measure is an alarm armor

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activation of a maintenance system (**col: 18 line: 58-66: maintenance ... removal of brine**).

Cawfield discloses: 7. A method according to claim 1 wherein a simulation process structure is automatically generated from a real process structure (**Fig 1**).

Cawfield discloses: 8. A method according to Claim 1 wherein the simulation process is supplied with substance or production parameters from the real process (**Fig 4, note the arrows leading from real process to Feedback Controller to real-time dynamic simulator**).

Cawfield discloses: 17. A method according to Claim 2, wherein the simulation process and real process each comprise several steps and wherein one of the steps in each case is compared with the other to derive maintenance measures (**Fig 4 and 5 and texts further expanding on the features; col: 18 line: 58-66 and generally Example 4**).

Cawfield discloses: 18. A method according to Claim 2, wherein the real process and simulation process are controlled jointly by a single control device (**col: 5 line: 54-56: "comparing each corresponding measured output signal and estimated output signal and calculating the difference between those signals."; col: 10 line: 50-64**).

Cawfield discloses: 21. A method according to Claim 4, wherein the comparing uses end results or partial results related to at least one process-control-related variable (**Abstract; col: 2 line: 34-43; col: 5 line: 11-14**).

Cawfield discloses: 23. A method according to Claim 7, wherein a generic simulation model is used to generate the simulation process structure (**Fig 1-4 and texts which further expand on the simulation features**).

As per claims 9-16, 19-20, 22, and 24, note the rejection of claims 1-8, 17-18, 21 and 23 above. The Instant Claims are functionally equivalent to the above-rejected claims and therefore rejected under same prior-art teachings.

Conclusion

10. All claims are rejected.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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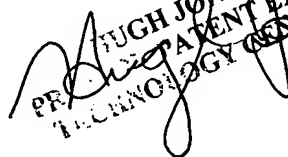
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Silver
Patent Examiner
Art Unit 2128

9/1/06


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